



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/692,249

10/23/2003

Charles H. Dennison

ITO.0537D1US (P11408D)

2166

21906

7590

03/03/2005

TROP PRUNER & HU, PC
8554 KATY FREEWAY
SUITE 100
HOUSTON, TX 77024

EXAMINER

DANG, PHUC T

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/692,249 | Applicant(s) DENNISON ET AL. | |
| | Examiner PHUC T. DANG | Art Unit 2818 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Pre-Amendment filed October 23, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>111803</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2818

DETAILED ACTION

1. This application is a divisional of 10/895,020 filed on June 30, 2001.

Preliminary Amendment

2. Applicants filed the Preliminary Amendment on October 23, 2003 has been acknowledged.
In Preliminary Amendment, Applicants canceled claims 1-14 and added newly claims 19-34.

3. Claims 15-34 are currently pending in the application.

Oath/Declaration

4. The oath/declaration filed on October 23, 2003 is acceptable.

Information Disclosure Statement

5. The office acknowledges receipt of the following items from the applicant:
Information Disclosure Statement (IDS) filed on November 18, 2003.

Specification

6. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was

Art Unit: 2818

commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 15-34 are rejected under 35 U.S.C. 102 (e) as being anticipated by Lowrey (U.S. Publication No. 2003/0001230 A1).

Regarding claim 15, Lowrey discloses an apparatus comprising:

- a volume of programmable material (207, Fig. 2E);
- a conductor (202, Fig. 2E); and
- an electrode (206, Fig. 2E) disposed between the volume of programmable material (207, Fig. 2E) and the conductor (202, Fig. 2E), the electrode (206, Fig. 2E) having a contact area at one end couple to the volume of programmable material (207, Fig. 2E), wherein the contact area is less than the surface area at one end [Figs. 2A-2E and page 2 [0021] +].

Claim 25 is similar to above claim 15, Lowrey discloses a memory comprising:

- a volume of programmable material (207, Fig. 2E);
- an electrode (206, Fig. 2E) in electrical contact with the volume (207, Fig. 2E) the electrode (206, Fig. 2E) including a pair of spaced portions only one of which contacts the volume (Figs. 2A-2E and page [0021] +).

Art Unit: 2818

Regarding claims 16 and 34, Lowrey discloses the conductor is a first conductor (202, Fig. 2E), the apparatus further comprising a second conductor (208, Fig. 2E) coupled to the programmable material (207, Fig. 2E).

Regarding claims 17-18 and 32-33, Lowrey discloses the programmable material is a phase change material which is a chalcogenide material [page 3 [0030]].

Regarding claims 19 and 26, Lowrey discloses the electrode is U-shaped [Fig. 2D].

Regarding claims 20 and 27, Lowrey discloses the U-shaped electrode includes two leg portions coupled by a base, only one of the leg portions forming the contact area [Fig. 2E].

Regarding claims 21- and 28, Lowrey discloses the base is electrically coupled to the conductor [page 3 [0028-0030]].

Regarding claims 22 and 29, Lowrey discloses the U-shaped electrode is filled with a dielectric material [Fig. 2D and page 3 [0028]].

Regarding claims 23 and 30, Lowrey discloses the U-shaped electrode includes a base coupled to at least one leg portion having a free end, wherein the contact area is formed on the free end of the U-shaped electrode [Fig. 2E and page 3 [0030]].

Regarding claims 24 and 31, Lowrey discloses a pair of leg portions coupled to the base, each leg portion including a free end, only one of the free ends forming the contact area [Fig. 2E and page 3 [0030] +].

Art Unit: 2818

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuc T. Dang whose telephone number is (571) 272-1776. The examiner can normally be reached on 8:00 am-5:00 pm.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and After Final communications.

10. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Phuc T. Dang

P.D. 

Primary Examiner

Art Unit 2818